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Violent Deaths, Ancient and Modern

WHILE we are busy with our efforts to make the world safe for pedestrians, we must not suppose that it is characteristic of our era alone to "live dangerously". That the ancients had their full share of hazards is made abundantly clear by a statistical examination of the records of history. Thus, out of a representative sample of 275 noted persons of Greek and Roman antiquity for whom we have reasonably authentic information regarding the manner of their death, 136 died by violence—that is, 49.5 percent, or very nearly one half the total!

But we must approach these figures cautiously. The devil perhaps is not as bad as he is painted. Violent deaths are more likely to have been definitely recorded than the more prosaic deaths from disease. In addition to the 136 cases with known mode of death, the total representative sample included also a further group of 126 persons, the cause of whose death was not recorded. Even so, if we include these in our reckoning, we still have 136 violent deaths out of a total of 401; that is, 34 percent, or a little more than one third.

Now it is a weakness of the historian to tell us more of battle and murder and sudden death, than of the less glamorous though really more important arts of peace. Let us, then, divide our list of 401 names into statesmen, generals, and soldiers on the one hand, and philosophers, artists, and authors on the other. In the former class there were 115 violent deaths out of a total of 180 for whom the cause of death is known; that is 64 percent. If we include those who died from an unrecorded cause, making the total 222, the percentage becomes 52.

But how about peaceful artists and their like? Here the figures are 21 violent deaths out of 95 deaths from known causes, or out of a total of 179 from all causes, known and unknown. Expressed in percentage the figures are 22 and 12, respectively.

What modern figures can we cite by way of comparison? We can at best make only a very broad parallel. The proportion of deaths from violent causes, including accident, homicide, suicide, in our general population today is about 9.5 percent. If we take only adults, that is persons over 20 years of age, the percentage is 9.4. These modern figures are not so very widely different from the 12 percent which we

have noted above, as characteristic of persons following peaceful pursuits in antiquity.

But what about the risks to which the soldier is exposed? Let us take the most extreme basis of comparison that we have in recent times, namely, casualties during the World War. According to careful estimates, the proportion of deaths in battle and from war wounds among the French was 41.8 percent of total deaths in the entire male population over the period of the war. In Germany the corresponding proportion was 42.4 percent; in Great Britain and Ireland, 33.8 percent, and in Italy, 22.1 percent. Some of these figures are not much lower than those previously cited for the soldiers and statesmen of antiquity used as a sample for this comparison. There is, however, a very important and very fundamental difference, namely, that the figures cited from recent history represent a transitory condition, which, bad as it was, lasted over only a limited number of years. In contrast with this the figures cited from antiquity are taken not from a concentrated period of war but from the general records of history. Surely the ancients did live dangerously.

It is of interest to examine a little more closely into how the deaths in our sample were distributed over the principal modes of violence. Of the 115 violent deaths among statesmen and soldiers, 38 are recorded as executions, 26 as murder, 18 as suicide, four as accidents, and 29 as "killed in battle". Of the 21 violent deaths among the 179 persons following peaceful pursuits in antiquity, five were executions, six were murders, three were suicides, five were accidents, and two were "killed in battle". While the totals here are very much more moderate than among soldiers and statesmen, the high percentage of murders, suicides, and executions certainly points clearly to the fact that even these persons in peaceful pursuits had to reckon with dangers of this kind on a scale far different from that of today. Even accidental deaths, which we perhaps think of as a very modern risk, run quite high in this group. If the ancients had no automobiles, they had many other dangers to contend with from which we are relatively exempt. It is very probable that even the most risky form of travel today is much safer than were most of the longer journeys that the ancients undertook. Travelers, as a matter of routine, went armed against the constant threat of murder at the hands of brigands. At sea, storms such as the modern ship steams through with little danger, often meant shipwreck for the frail craft of those days with no help within call, and almost certain death to all aboard. However much our days are hurried and endangered by machines and engines of destruction, they are apparently safe and peaceful in comparison with the "golden" days of antiquity, when life was constantly harassed by the prevalence of war or by the whims of tyrants and dictators.

158 Millions Paid in Death Claims to Metropolitan Beneficiaries During 1935

THE Metropolitan Life Insurance Company in 1935 paid in death claims to beneficiaries of deceased policyholders nearly 158 millions of dollars ($157,889,173). This is substantially double the amount disbursed only 10 years before.

Almost one sixth (16.5 percent) of the total paid in claims for all causes of death combined and substantially one fifth of the total sum paid on account of all deaths from disease (as distinguished from violent deaths) was disbursed on account of organic heart disease.

This is the 12th successive year in which heart disease has headed the list for claim disbursements. Ten years ago less than one seventh of the total was paid on account of deaths from cardiac conditions. Nevertheless, 1935 witnessed a small drop in the crude death rate for heart disease among Metropolitan Industrial policyholders following a long series of year to year increases; and it may well be that from now on there will be a decline in the percentage of total disbursements paid out on account of heart conditions.

The three principal cardiovascular-renal impairments—heart disease, chronic nephritis, and cerebral hemorrhage—accounted for almost three tenths of the total sum paid out in death claims last year. These so-called "degenerative diseases" constitute one of the most fertile fields for public health work, for thousands of these deaths could have been prevented and thousands more could have been postponed. There is still much work to be done to better control the acute diseases of children, the focal infections and the venereal diseases, all of which are instrumental in creating cardiac impairments. Furthermore, as more people come to learn the importance of correct diet, of proper exercise, and of personal hygiene in general, there will be fewer deaths from these chronic diseases.

Cancer ranks second among the causes of death for which money is disbursed. More than one ninth of all death claim payments in 1935 were on account of cancer, as compared with a little more than 1/11 of such payments for 1925. As in the case of heart disease, however, there has recently been a decided slackening in the upward course of the cancer death rate. There was actually a small drop in 1935 among the Company's policyholders following an increase which had not been interrupted for years. The prospect is getting better that medical science will eventually effect a considerable reduction in cancer mortality.

All types of accidents combined rank third in importance and one dollar of every 10 disbursed in 1935 was paid out on account of accidental death. Ten years ago $1.09 was so disbursed. Nevertheless, more than $3,000,000 of the nearly $15,500,000 paid out for accidental deaths was accounted for by addi-

tional accidental death benefits paid to Industrial policyholders in double indemnity payments without extra premium. This privilege was not extended to these policyholders in 1925; but even when this sum is deducted 75 percent more money was disbursed on account of accidents last year than 10 years ago.

Payments on account of automobile fatalities in 1935 constituted more than 44 percent of the total for all accidental deaths.

Influenza and pneumonia, considered jointly, ranked fourth in importance, while pneumonia itself stood fifth. The percentage of moneys disbursed for these conditions was much lower than it was 10 years previously. Disbursements for these diseases are apt to vary widely from year to year, reflecting the variations in the prevalence of influenza and influenzal pneumonia.

Chronic nephritis actually ranked fourth and cerebral hemorrhage sixth. Despite the increase in the average age of the policyholders, which would tend to raise the crude death rate for chronic nephritis, the tendency of the mortality from this disease has been markedly downward, and the percentage of claim payments for it has dropped from 7.7 in 1925 to 6.1 in 1935.

Tuberculosis ranked seventh for money disbursed whereas, in 1925, it was second. Despite the immense growth of the Company in 10 years, it actually paid out a smaller sum in death claims arising out of tuberculosis than was paid 10 years ago. The actual percentage of the total disbursements was 5.5, or less than one half that for 1925. There is no more eloquent indication of what has happened in the field of tuberculosis control in the last decade than the reduction of death claim totals for this disease.

The diabetes death rate dropped slightly in 1935, and $332,000 less was disbursed for this disease than in 1934. Diabetes was responsible for 2.3 percent of all claim disbursements as compared with only 1.7 percent in 1925.

A new minimum mortality rate was registered last year for diseases incidental to the maternal state. Actual disbursements on account of these diseases were less in 1935 than in 1925, despite the marked growth in the number of women insured; and the percent of total disbursements for last year was only about one third of that for 10 years ago.

Suicide was responsible for claim payments amounting to 3.3 percent of the total as compared with only 2.0 percent in 1925. Nevertheless, the figures for more recent years show that death claims for suicide have constituted a declining percentage of the total of claim disbursements. For example, in 1932 they constituted 5.1 percent of the sum paid on account of all causes of death; there was a further drop to 3.6 percent in 1933, to 3.4 percent in 1934, and now to 3.3 percent in 1935.

In the table on page 5, the first two items, typhoid fever and diphtheria, are numerically the least important. In fact, the only purpose served by these items in the

table is to show how negligible these two communicable diseases, with their present-day low mortality rates, have become in the budgets of the life insurance companies.

These facts about the moneys paid out in benefits by a large Life insurance company give only a vague conception of the country's loss through disease and violent death—so much of which is preventable or postponable. Every preventable death is a loss to the community, and the aggregate losses are incalculable. A realization of the economic aspects of life and health should spur on those who are responsible for public effort to widen and intensify their activities along lines that have proved their value.

DISBURSEMENTS

For Specified Causes of Death, 1935 and 1925 Compared. Metropolitan Life Insurance Company. Premium-Paying Policies. All Ages.

Diseases or Conditions	Amount		Percent of Total	
	1935	1925	1935	1925
All Causes of Death	$151,218,556*	$76,929,728*	100.0	100.0
Typhoid fever	227,508	541,205	.2	.7
Diphtheria	88,361	158,796	.1	.2
Influenza and pneumonia	11,316,548	7,620,933	7.5	9.9
Influenza	2,137,525	1,782,207	1.4	2.3
Pneumonia	9,179,023	5,838,726	6.1	7.6
Tuberculosis—all forms	8,373,608	8,586,815	5.5	11.2
Tuberculosis of respiratory system	7,610,074	7,882,597	5.0	10.2
Cancer—all forms	17,911,121	7,308,177	11.8	9.5
Diabetes mellitus	3,521,726	1,291,552	2.3	1.7
Cerebral hemorrhage; apoplexy	9,163,305†	4,387,192	6.1	5.7
Diseases of heart‡	24,893,082	10,394,057	16.5	13.5
Appendicitis	3,012,865	1,769,234	2.0	2.3
Chronic nephritis (Bright's disease)	9,246,275	5,890,760	6.1	7.7
Puerperal state—total	971,090	1,232,336	.6	1.6
Total external causes	21,971,444§	9,450,941	14.5	12.3
Suicides	5,087,919	1,527,758	3.3	2.0
Homicides	1,505,830§	847,618	1.0	1.1
Accidents—total	15,377,695§	7,073,675	10.2	9.2
Accidental drowning	1,187,870	694,147	.8	.9
Traumatism by fall	2,350,122	788,783	1.5	1.0
Railroad accidents	845,545	734,340	.6	1.0
Automobile accidents	6,797,193	1,819,958	4.5	2.4
All other accidents	4,196,965	3,036,447	2.8	3.9
All other diseases and conditions	40,521,623	18,297,730	26.8	23.7

*Gross amount paid in death claims and additional accidental death benefits in 1935 was $157,889,173; in 1925 it was $78,934,833. The above tabulation does not include death benefits paid on Paid-up and Extended Term insurance policies.

†Not strictly comparable with the figure for 1925, due to changes in classification procedure.

‡Excludes pericarditis, acute endocarditis, acute myocarditis, and angina pectoris.

§Not strictly comparable with the figure for 1925. Since 1928 the Company has extended to Industrial policyholders a double indemnity accidental death benefit without extra premium. Additional accidental death benefits for 1935 totaled $4,589,059; of which $3,037,621 was paid on Industrial policies.

The Comparative Mortality from Diabetes and Tuberculosis

Two of the most striking features in the changing mortality picture are the steady increase in the mortality from diabetes and the simultaneous decline in the death rate from tuberculosis. Since the beginning of the century diabetes has risen from the rank of a comparatively minor cause of death in the United States to ninth place, while tuberculosis has fallen from first rank to seventh. It is likely that within a decade the relative position of these two causes of death will be reversed. Further increases in the death rate from diabetes may be expected because older people are forming an ever-increasing proportion of the population. Moreover, more skill in diagnosing the disease tends to raise its recorded incidence, and at the same time conditions of life in our mechanized civilization favor the development of the disease and raise its actual incidence. On the other hand, future decreases in tuberculosis are confidently expected to follow from the long-continued efforts to control the disease by preventive measures and by improved methods of treatment.

Indications of the end result of these converging trends are already found in important sections of our population, although for the United States, as a whole, the number of deaths from diabetes during 1934 was only 39.1 percent of that from tuberculosis. The percentage has been rapidly increasing, however; in 1930 it was 26.6 percent and in 1920 only 14.0 percent. The gap between the mortality rates of the two diseases may be expected to close with increasing rapidity.

The figures for the two diseases are more nearly alike in the white than in the colored population. Among the former, diabetes deaths were 51.8 percent of the tuberculosis deaths in 1934, whereas among the colored they were only 8.7 percent. It is apparent that the diabetes death rate will pass the tuberculosis rate among white persons long before this happens among the colored. Because of the wide disparity in the mortality according to color, the succeeding sections of this article relate only to white persons.

The death rate from diabetes among white females will be the first to exceed the rate from tuberculosis. In 1934 the former was already 74.4 percent of the tuberculosis rate. In fact, among white males it will take much longer, because the number of deaths from diabetes in 1934 was only 35.3 percent of that from tuberculosis.

The comparative mortality from the two diseases shows wide variation throughout the country. In only one State—Nebraska—was the white diabetes death rate during 1933–1934 higher than that for tuberculosis. In four neighboring States—Iowa, Kansas, and the Dakotas—the diabetes rate was very close to the tuberculosis rate in this

period (in 1934 alone it actually exceeded the tuberculosis rate in three of them). In four other States diabetes deaths were only 15 to 30 percent less than those from tuberculosis during 1933–1934. In 28 States altogether, the diabetes rate was 50 percent or more of the tuberculosis rate. At the other end of the scale are most of the Southern States and certain States (Colorado, New Mexico, and Arizona) to which many sufferers from tuberculosis go for treatment. In these areas the diabetes death rate is less than one fourth that from tuberculosis.

If we consider white females only, the situation is very different. This is clearly seen in the lower part of the chart on page 8. In no less than 14 States the diabetes death rate during 1933–1934 exceeded that from tuberculosis, and in eight others the figures were fairly close. In this group are included New England, the Middle Atlantic States, and most of the Middle West. Among white males, as the chart shows, the situation is quite different. Only in Nebraska were there more male deaths from diabetes than from tuberculosis during this 2-year period; and in only three others was the figure for diabetes within 30 percent of the tuberculosis figure.

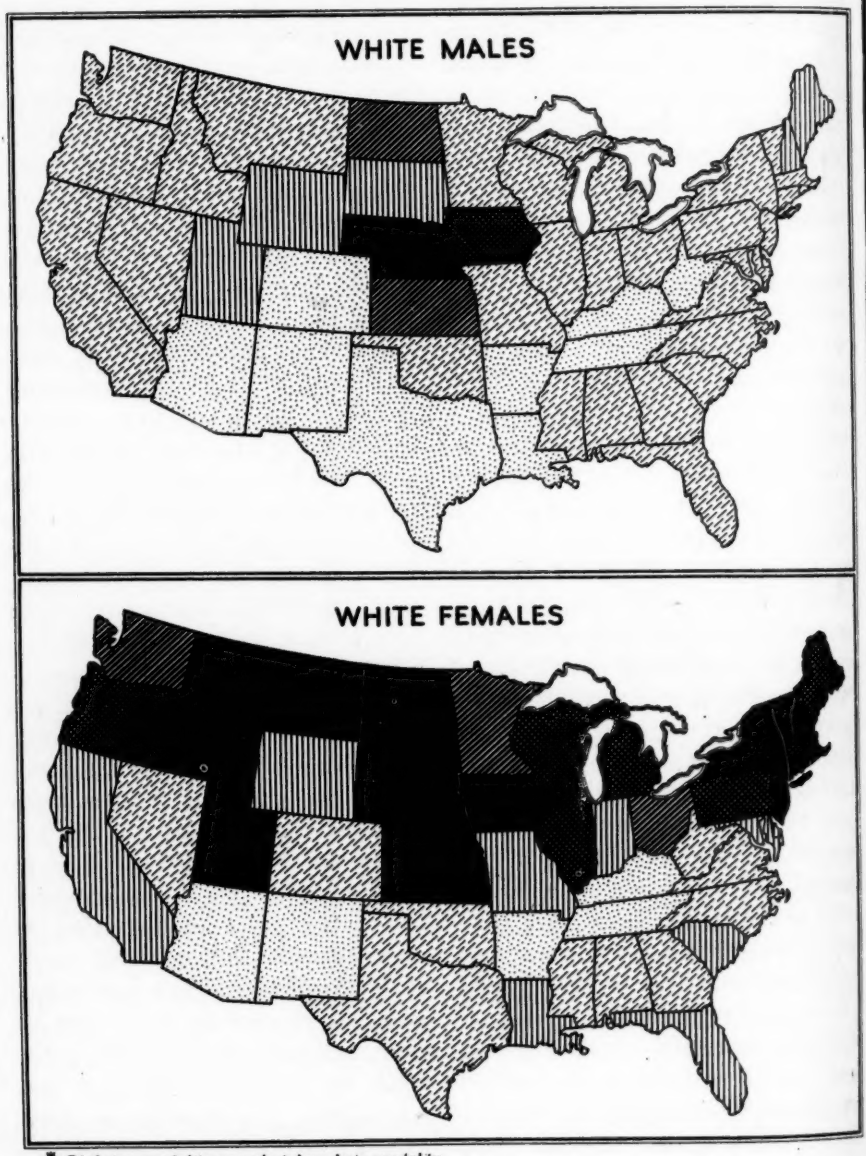
In urban populations the relative frequency of diabetes as compared with tuberculosis is higher than in semiurban and rural areas. In considering this aspect of the situation one must bear in mind that tuberculosis sanatoria are usually located in the rural areas, whereas rural diabetics frequently go to cities for treatment. In six States the diabetes mortality in the urban white population (cities of 10,000 or more) exceeded that from tuberculosis during 1933–1934, and in nearly half the States the ratio was 70 percent or more. Among white females in this urban population there were actually more deaths recorded from diabetes than from tuberculosis during 1934, and this was true for more than one half the individual States during 1933–1934. Among urban white males, on the other hand, the tuberculosis death rate was higher than the diabetes rate in every State, although in two States they were fairly close. In the semiurban population (cities of 2,500 to 10,000) diabetes deaths among females were more frequent than those from tuberculosis in 13 States, but among white males in only three States. There were eight States in which more rural white females died from diabetes than from tuberculosis during 1933–1934, and three others in which the rates from the two diseases were approximately the same. The corresponding figures for rural males were one and three States respectively.

The situation in the large cities of the country is likewise of great interest. In 12 of the 93 cities of 100,000 population or more (as of 1930) the diabetes death rate (white and colored combined) was higher than that from tuberculosis in 1933–1934, and in seven others it was fairly close. Outstanding are Syracuse, where the diabetes deaths were

DIABETES AND TUBERCULOSIS
COMPARATIVE MORTALITY · BY STATES · 1933-1934

Diabetes Deaths per 100 Tuberculosis Deaths

Under 25	70-84.9
25-49.9	85-99.9
50-69.9	100 & over *



* *Diabetes mortality exceeds tuberculosis mortality*

60.9 percent in excess of those from tuberculosis; New Haven, with a 43.7 percent excess, and Rochester, 42.4 percent. In New York City, as a whole, the diabetes deaths were slightly less than half the total for tuberculosis, but in Brooklyn alone only 3.1 percent less. In Chicago the number of diabetes deaths was slightly more than half the tuberculosis deaths, and in Philadelphia slightly less than half.

The implication of these figures is obvious. Diabetes and other chronic diseases are certain to demand more and more attention from public health officials, as the average age of our population increases and the incidence of the acute diseases and of tuberculosis decreases. The organizations which have been built up to combat tuberculosis may well extend their work to the study and control of other chronic diseases. Although these present their own peculiar problems, they have, from the point of view of control, many aspects in common with tuberculosis. It should be fairly easy to adapt the work of tuberculosis organizations to other fields. This idea has already taken hold in several parts of the country and should be encouraged everywhere. It is much better to use agencies which are well organized and efficiently manned than to create new ones, each working in a special small field, many of them with overlapping functions. The present article shows clearly the direction in which this reorientation of public health work is most necessary.

Health Record for January 1936

DATA from insurance and general population sources on the mortality of the country during January lead to opposite conclusions as to whether the death rate was higher or lower than during the like month of 1935. Among the 17,000,000 Industrial policyholders of the Metropolitan Life Insurance Company, for example, the death rate was not only lower by 8 percent than in January 1935, but it reached the lowest point ever recorded for any January. This very favorable report is supported by the combined mortality data from all the large Industrial Life insurance companies, which show that up to the week ended February 1 these companies paid only 10.5 death claims per thousand policies in force, as compared with 11.1 claims in the same period of last year. On the other hand, the cumulative mortality rate for the general population of 86 large cities up to February 1, 1936, as published by the Bureau of the Census, was 13.4 per thousand, whereas in 1935 it was 13.1, which is an *increase* of 2.3 percent.

It is nevertheless clear from all these figures that despite the rigors of an unusually severe winter, 1936 has started with a low death rate and that current health conditions are favorable.

The following are the more noteworthy facts with respect to the important causes of death. The mor-

tality rate for influenza in January was approximately one half that for this month last year, and the figure for pneumonia shows a reduction of more than 8 percent; tuberculosis, cancer, diabetes, cerebral hemorrhage, heart disease, and chronic nephritis all show material declines from last year's mortality figures. Not a single one of the more important causes of death, in fact, has registered a higher death rate than in January 1935.

Slight rises are in evidence this year, however, for diarrheal diseases and for suicides.

The diseases which increased in prevalence in January, as compared with December, in the general population of the United States, were influenza, measles, scarlet fever, and smallpox; but there was less sickness from diphtheria, poliomyelitis, and typhoid fever. Comparison with January 1935 shows more cases of scarlet fever and smallpox, together with lower incidence of diphtheria, influenza, measles, poliomyelitis, and typhoid fever.

Items of special public health interest recently reported are: The RHODE ISLAND PUBLIC HEALTH ASSOCIATION was incorporated on January 7th and has held its first annual meeting. The Connecticut State Department of Health is to begin a study of the mortality from, and the prevention and treatment of, cancer. It has been decided in Polk County, Iowa, to devote one month each year to a campaign to immunize children against diphtheria. The State and local health authorities will cooperate with parent-teacher associations and other agencies in a concentrated drive. A comprehensive hospital survey for New York City has been organized under the direction of the UNITED HOSPITAL FUND, financed by a grant from the CARNEGIE CORPORATION. The movement for better organized control of venereal disease is now under way in New York City. It is planned that the W.P.A., with an appropriation of $100,000, will engage nearly 100 specially trained physicians and nurses to assist the regular staffs of hospitals for this purpose. The NEW MEXICO TUBERCULOSIS ASSOCIATION, the State Department of Health, and the MAYTAG RESEARCH LABORATORY are to cooperate in New Mexico, during 1936, in a study of the dangerous adult type of active tuberculosis.

The following table shows the mortality among Industrial policyholders for January 1936, December 1935, and January 1935, together with the death rates for the years 1935 and 1934.

METROPOLITAN LIFE INSURANCE COMPANY

Death Rates per 100,000 for Principal Causes. Weekly Premium-Paying Business in Industrial Department. All Ages (Annual Basis).*

MONTHS OF JANUARY 1936, DECEMBER 1935, AND JANUARY 1935.

CAUSES OF DEATH	ANNUAL RATE PER 100,000 LIVES EXPOSED*				
	January 1936	December 1935	January 1935	Year	
				1935	1934
TOTAL—ALL CAUSES	876.2	819.2	952.2	837.4	854.1
Typhoid fever	.6	1.0	.2	1.1	1.5
Measles	.8	.9	1.4	2.5	2.7
Scarlet fever	2.3	1.6	3.1	2.6	2.6
Whooping cough	1.6	1.7	3.3	2.6	3.7
Diphtheria	3.1	3.3	3.1	2.2	2.1
Influenza	17.9	12.4	33.1	14.6	11.4
Tuberculosis (all forms)	48.6	50.5	61.1	55.6	59.4
Tuberculosis of respiratory system	43.6	45.7	56.5	49.6	52.2
Syphilis, locomotor ataxia, and general paralysis of the insane	11.6	10.5	11.8	11.4	12.3
Cancer (all forms)	83.2	90.0	93.3	95.5	96.1
Diabetes mellitus	24.8	24.1	29.1	24.2	24.4
Cerebral hemorrhage; apoplexy	63.6	62.2	66.2	61.2	63.2
Diseases of heart†	168.1	155.1	181.5	157.4	162.9
Diseases of the coronary arteries	23.7	26.1	23.8	22.7	18.8
Angina pectoris	8.0	8.0	11.1	9.2	10.0
Pneumonia (all forms)	104.8	68.6	114.3	66.1	65.0
Diarrhea and enteritis	6.6	5.4	6.0	8.1	11.1
Appendicitis	9.0	10.1	10.5	11.4	13.1
Chronic nephritis (Bright's disease)	60.3	56.9	66.8	59.9	64.9
Puerperal state—total	6.7	7.4	10.5	8.7	8.8
Suicides	8.4	7.1	7.7	9.1	9.5
Homicides	5.0	6.0	6.9	5.9	5.9
Accidents—Total	54.1	53.2	55.5	54.5	57.8
Automobile accidents	19.2	22.2	21.2	20.3	21.1
All other diseases and conditions	163.6	157.1	152.0	150.8	146.8

*The rates for 1935 and 1936 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

†Excludes pericarditis, acute endocarditis, and acute myocarditis.

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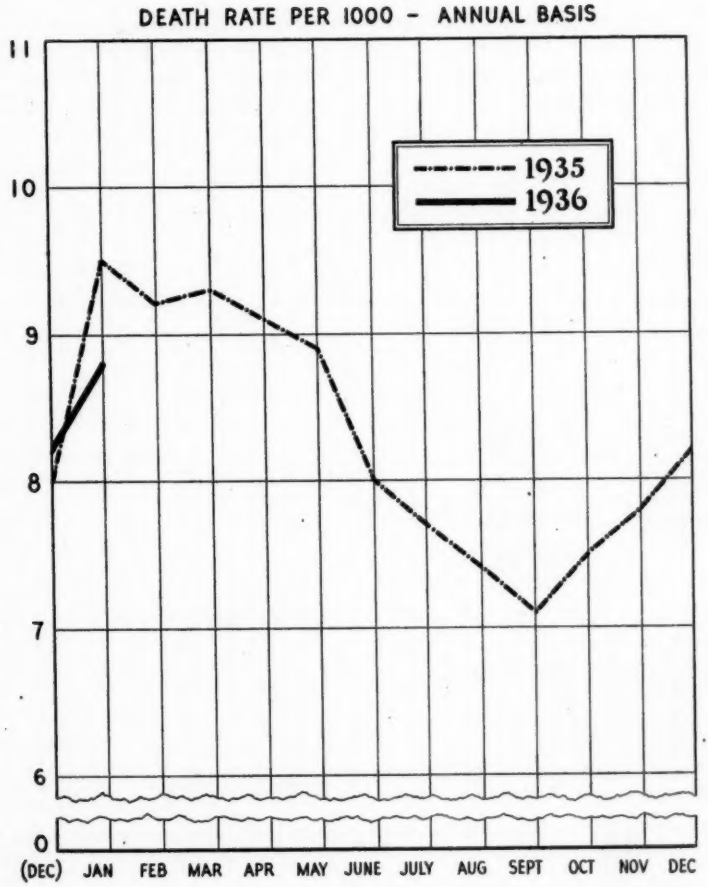
DEATH RATES FROM ALL CAUSES

METROPOLITAN LIFE INSURANCE CO. - INDUSTRIAL DEP'T.
WEEKLY PREMIUM-PAYING BUSINESS - TOTAL PERSONS



1935	9.5	9.2	9.3	9.1	8.9	8.0	7.7	7.4	7.1	7.5	7.8	8.2
1936	8.8											

Rates are provisional

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